

Assignment 9

Textbook Assignment: "Canopy Systems." Pages 6-26 through 6-73.

Learning Objective:

Recognize the components, seat system/subsystems, support components, system operations, component test and test equipment, and corrosion control procedures for the Martin-Baker SJU-5/A ejection seat.

- 9-1. When the safe/arm handle is in the safe position, the pilot sees the handle as what color?
1. Yellow
 2. Black
 3. White
 3. Red
- 9-2. What initiator provides the gas pressure required to activate the IFF?
1. Right seat initiator
 2. SMDC initiator
 3. Left seat initiator
 4. 0.3-second delay initiator
- 9-3. What force is used to fire the inertia reel cartridge during the ejection sequence?
1. Sear withdrawal
 2. Electrical current
 3. Gas pressure
 4. Heat
- 9-4. What force ignites the primary cartridge within the, catapult?
1. Ballistic gas
 2. Sear removal
 3. Electrical current
 4. Pneumatic pressure
- 9-5. Forward movement of the leg restraints is prevented by what component?
1. Seat bucket
 2. Deck mounts
 3. Locking lugs
 4. Snubbing unit
- 9-4. If the drogue gun primary cartridge fails, what component(s) will fire the secondary cartridge?
1. Rocket motor initiator
 2. Time-release mechanism
 3. Manual override initiator
 4. Both 2 and 3 above
- 9-7. Below what altitude will the 1.5-second timer in the TRM start to operate without interruption?
1. 7,500 feet
 2. 8,000 feet
 3. 8,500 feet
 4. 9,000 feet
- 9-8. When the ejection seat is installed in the aircraft? what component locks it to the catapult?
1. Time-release mechanism
 2. Top latch mechanism
 3. Left main beam
 4. Right main beam
- 9-9. What components absorb the inertia forces encountered during barrel separation?
1. Pressure rings
 2. Guide bushings
 3. Piston rings
 4. Expander bushings
- 9-10. What component locks the guide bushing to the outer barrel?
1. Retaining pin
 2. Dowel screw
 3. Locking plunger
 4. Guide bushing rivet

- 9-11. The seat height actuator rod is attached to what component?
1. Lower cross member
 2. Center cross member
 3. Upper sliding runner
 4. Lower sliding runner
- 9-12. What component holds the moveable jaw of the scissor mechanism in the closed position?
1. Trombone fitting
 2. Drogue gun
 3. Rocket motor
 4. Time-release mechanism
- 9-13. The parachute container houses which of the following parachutes?
1. Controller drogue
 2. Main drogue
 3. Personnel
 4. All of the above
- 9-14. What handle is the only means by which ejection can be initiated?
1. Safe/arm
 2. Face curtain
 3. Ejection central
 4. Manual override
- 9-15. What handle is located on the left side of the seat bucket?
1. Safe/arm
 2. Ejection control
 3. Manual override
 4. Shoulder harness control
- 9-16. During the ejection sequence, gas pressure from what cartridge retracts the pin?
1. Right seat initiator
 2. Left seat initiator
 3. Manual override initiator
 4. Time-release initiator
- 9-17. What barrel(s) of the catapult will remain with the seat during ejection?
1. Inner
 2. Intermediate
 3. Outer
 4. Both 2 and 3 above
- 9-18. By what method is the primary cartridge of the drogue gun fired?
1. Electrically
 2. Mechanically
 3. Pneumatically
 4. Ballistically
- 9-19. What component prevents full upward movement of the manual override handle?
1. Pin puller
 2. Shear rivet
 3. Safety pin
 4. Bell crank assembly
- 9-20. What initiator actuates the pin puller?
1. Right seat
 2. SMDC
 3. Left seat
 4. 0.3-second delay
- 9-21. Gas pressure from the TRM travels through what fitting to fire the cartridge in the manual override initiator?
1. Quick-disconnect
 2. Trombone
 3. Delay
 4. Venturi
- 9-22. During the time-delay test of, the drogue gun. the firing link is pulled from the drogue gun in 0.7 second. Based upon the result, what action, if any, should be taken?
1. Lubricate the firing link
 2. Repeat the test
 3. Replace the drogue gun
 4. None
- 9-23. Before you perform checks on the time-release mechanism, which of the following actions should you take?
1. Disarm the TRM
 2. Remove the TRM from the seat
 3. Inspect the TRM for damage
 4. All of the above

9-24. To obtain satisfactory results in the time delay check-out of the time-release mechanism, the firing link must be pulled from the time-release g-sensing mechanism within what maximum number of seconds?

1. 1.5 ±0.1
2. 1.7 ±0.1
3. 1.8 ±0.1
4. 1.8 ±0.2

9-25. To do a barostat check-out, the test box altimeter must be set to what prescribed millibar value?

1. 1000
2. 1013
3. 1026
4. 1039

Learning Objective:
Recognize the components, parachute and seat separation operations, seat sunsystems, component maintenance, corrosion control, and lubrication and emergency cleaning procedures for the Stencil SJU-8/A ejection seat.

9-26. The SJU-8/A seat provides escape capabilities at which of the following ejection parameters?

1. All altitudes and airspeeds
2. Zero altitude and zero airspeed
3. Maximum airspeeds and altitudes of 600 knots and 50,000 feet
4. Both 2 and 3 above

9-27. What total number of operating modes are incorporated in the SJU-8/A ejection seat?

1. One
2. Two
3. Three
4. Four

9-28. What initiator supplies gas pressure to the inertial reel gas-generating initiator?

1. 3.0-second time delay
2. Left M99 ejection
3. Right M99 ejection
4. Seat/man separation

9-29. The catapult cartridge is fired by gas pressure from what device?

1. Inner trombone
2. Multi-time delay
3. Low-speed selector valve
4. Left and right ejection initiators

9-30. Gas pressure is applied to the drogue gun pistons after approximately how many inches of seat travel?

1. 8 in
2. 12 in
3. 16 in
4. 20 in

IN ITEM 9-31 THROUGH 9-34, SELECT FROM COLUMN B THE AIRSPEED AND ALTITUDE INFORMATION THAT APPLIES TO THE WIDE IN COLUMN A.

	A. Mode	B. Airspeed and Altitude
9-31.	Mode 1	1. Altitude above 14,000 feet
9-32.	Mode 2	2. Airspeed above 225 knots and altitude below 7,000 feet
9-33.	Mode 3	3. Altitude between 7,000 and 14,000 feet
9-34.	Mode 4	4. Airspeed below 225 knots and altitude below 7,000 feet

9-35. (Refer to fig. 6-32 and supporting material in the text.) The 0.1-second time delay receives gas pressure from what device?

1. Gas-generating initiator
2. Left--hand inner trombone
3. Right-hand outer trombone
4. Low-speed selector valve

9-35. Under mode 1 conditions, what initiator arms the 14,000-foot aneroid initiator?

1. 0.1-second delay
2. 1.3-second delay
3. 3.0-second delay
4. Left-hand M99 ejection

- 9-37. Under mode 2 conditions, the output of the 0.1-second delay initiation is blocked by what component?
1. Pin puller
 2. Guillotine
 3. Drogue release
 4. Low-speed selector valve
- 9-38. What mode(s) would operate as a backup in the event of mode 2 failure?
1. Mode 1 only
 2. Mode 3 only
 3. Mode 4
 4. Modes 1 and 3
- 9-39. What is the purpose of the 3.0-second time-delay initiator?
1. To arm the 7,000-foot aneroid in mode 2
 2. To arm the 14,000-foot aneroid in mode 3
 3. To fire the guillotine mechanism
 4. To position the low-speed selector valve
- 9-40. The safe and arm control handle safeties what initiator(s)?
1. Left-hand M99 ejection
 2. Right-hand M99 ejection
 3. Seat/man separation
 4. All of the above
- 9-41. What is the total number of ejection control handles incorporated in the SJU-8/A ejection seat?
1. One
 2. Two
 3. Three
 4. Four
- 9-42. The output gas pressure from the two M99 ejection initiators is routed to igniters contained in what device?
1. Word motor
 2. Drogue container
 3. Catapult cartridge
 4. Seat back rocket
- 9-43. Which of the following statements describes the catapult tube assemblies?
1. They provide support for the seat bucket
 2. They house the catapult lock and unlock mechanism
 3. They provide support for the headrest and personnel parachute
 4. All of the above
- 9-44. The catapult lock mechanism consists of a locking piston and what other items?
1. Top latch mechanism
 2. Two retainer rings
 3. Three guide bushings
 4. Six locking balls
- 9-45. The outer trombone assemblies route ballistic gas from the two M99 ejection initiators to the catapult cartridge igniters.
1. True
 2. False
- 9-46. What is the approximate burn time of the seat back rackets?
1. .15 second
 2. .25 second
 3. .35 second
 4. .45 second
- 9-47. Actuation of what component allows the main parachute canopy assembly to deploy?
1. Word bridle
 2. Drogue bridle
 3. Parachute container opener
 4. Word motor
- 9-48. What total number of slugs are contained in the spreader gun assembly?
1. 10
 2. 14
 3. 18
 4. 22
- 9-49. Rotation of the seat pan release rod fires what initiator?
1. Left M99 ejection
 2. Multiple time-delay
 3. 3-second time-delay
 4. Seat/man separation

- 9-50. Gas pressure from the seat/man separation initiator is transmitted to what device(s)?
1. Inertia reel strap guillotine
 2. Droque release assembly
 2. Parachute container opener
 4. All of the above
- 9-51. When the emergency release handle is pulled, which of the following actions takes place?
1. The seat release shaft rotates
 2. The harness release actuator retracts
 3. The firing central disconnect fitting unseats
 4. The time-release mechanism arms
- 9-52. A full emergency oxygen bottle contains a total of how many cubic inches of oxygen?
1. 30
 2. 40
 3. 50
 4. 60
- 9-53. The emergency oxygen supply lanyard is attached to the bottom of the seat pan and to what other item?
1. Cockpit deck
 2. Safe and arm control handle
 3. Catapult cartridge manifold
 4. Seat release shaft
- 9-54. A properly serviced emergency oxygen system should have what prescribed pressure when the bottle is full?
1. 1200 psi
 2. 1500 psi
 3. 1800 psi
 4. 2100 psi
- 9-55. Automatic actuation of the emergency oxygen supply also provides automatic actuation of the emergency locator beacon.
1. True
 2. False
- 9-56. When performing the safe and arm control assembly check-out, what should be the maximum amount of force required to move the handle to the full up position?
1. 5 pounds
 2. 10 pounds
 3. 15 pounds
 4. 20 pounds
- 9-57. What is the name of the component that block the movement of the initiation rotors?
1. T-bar
 2. Interlock block
 3. Arming key
 4. Trip rod
- 9-58. During the emergency release handle check, the handle should move up with a maximum force of
1. 20 pounds
 2. 30 pounds
 3. 40 pounds
 4. 50 pounds
- 9-59. (Refer to fig. 6-46 and supporting material in the text.) What devices are installed in the separation lanyard retainer assemblies to hold the seat release lanyard bell cranks in place?
1. Trip rods
 2. Shear pins
 3. Cotter pins
 4. Setscrews
- 9-60. The initial breakout force for the ejection control assembly check should be between what maximum number of pounds?
1. 5 and 15 pounds
 2. 15 and 25 pounds
 3. 25 andf 35 pounds
 4. 35 and 45 pounds
- 9-61. When performing the inertial reel check, the force required to extend the risers should be between what maximum number of pounds?
1. 5 and 15 pounds
 2. 15 and 25 pounds
 3. 25 and 35 pounds
 4. 35 and 45 pounds

- 9-62. How many steps are used to complete the seat height adjustment actuator check-out?
1. Five
 2. Two
 3. Three
 4. Four
- 9-63. To prevent heat damage to the height adjustment actuator motor, what are the operating time limits that must be observed?
1. 15 seconds on and 30 seconds off
 2. 30 seconds on and 1 minute off
 3. 30 seconds on and 45 seconds off
 4. 1 minute on and 1 minute off
- 9-64. The airspeed/altitude sensor must be removed to perform the check-out procedure.
1. True
 2. False
- 9-65. Recording to the NA 01-1A-509, ejection seats should be inspected for corrosion control at what minimum interval while at sea?
1. Every day
 2. Every other day
 3. Every 7 days
 4. Every 14 days
- 9-66. VV-L-800 lubricating oil should be applied to all points that slide and used as a corrosion preventive for all bright metal parts.
1. True
 2. False
- 9-67. During emergency cleaning of the ejection seat, what should you use to rinse the seat?
1. Lubricating oil
 2. Fresh water
 3. Safety solvent
 4. Water emulsion cleaner
- 9-68. The MIMs and MRCs for most ejection seat systems provide explicit instructions for corrosion control.
1. True
 2. False
- 9-69. Indiscriminate use of paint, preservatives, or other materials that dry and buildup following application can prevent or restrict proper motion of movable parts.
1. True
 2. False
- 9-70. What color flags are used on ejection seat ground safety pins?
1. Red
 2. Orange
 3. Yellow
 4. Black and white

